

CLAIMS:

1. A product data exchange system (300) for exchanging technical product data between respective computer systems (310, 320, 340, 350, 360) of a plurality of collaborating companies; at least a computer system (310) of a first one of the collaborating companies including:
- 5 a plurality of distinct data management systems (312, 314, 316), such as CAD, PLM, ERP, each for creating respective technical product data; and
an editing system (318) for:
importing technical product data relating to a user-selectable project
from a plurality of the data management systems;
- 10 creating an exchange package representing user-selectable parts of the imported technical product data; and
providing the exchange package to a computer system located at at least one of the other collaborating companies.
- 15 2. A product data exchange system as claimed in claim 1, wherein a computer system of at least one of the collaborating companies includes:
a further data management system for operating on technical product data; and
a second editing system for:
retrieving the exchange package; and
20 exporting user-selectable technical product data from the exchange package to the further data management system.
3. A product data exchange system as claimed in claim 1, wherein a computer system of at least one of the collaborating companies includes a third editing system for:
25 retrieving the exchange package;
combining user-selectable parts of technical product data in the retrieved exchange package into a further exchange package; and
providing the further exchange package to a computer system located at at least one sub-contractor of the collaborating company.

4. A product data exchange system as claimed in claim 1, wherein the editing system is operative to enable a user to perform at least one of the following control operations:

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- add technical product data into the exchange package;
 - remove a user-selectable part of the imported technical product data;
 - modify a user-selectable part of the imported technical product data.

5. A product data exchange system as claimed in claim 1, wherein the editing system is operative to automatically insert traceability data into the exchange package representative of control operations of a user of the editing system.

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6. A product data exchange system as claimed in claims 4 and 5, wherein the traceability data includes:

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- for added technical products data: a representation of the added technical product data;
 - for removed technical product data: a representation of the removed technical product data; and
 - for modified technical product data: a representation of both the original and modified
- 20 technical product data.

7. A product data exchange system as claimed in claim 1, wherein the editing system is operative to import technical product data that relates to a same baseline of the project from the plurality of the data management systems.

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8. A product data exchange system as claimed in claim 1, wherein a computer system of at least one of the collaborating companies includes a fourth editing system for:

- retrieving the exchange package;
- adding problem reporting data relating to at least one entity of the technical

30 product data in the retrieved exchange package, forming an extended exchange package; and

- providing the extended exchange package to at least one computer system of a collaborating company.

9. A product data exchange system as claimed in claim 1, wherein the editing system is operative to represent technical product data in a further exchange package in the form of a delta description that covers changes with respect to technical product data represented in a previously provided exchange package and to incorporate a reference to the previously provided exchange package in the further exchange package.

10. A product data exchange system as claimed in claim 1, wherein the data exchange package includes a header and optional attachments for representing technical product data in a data management system specific format, such as a specific CAD format.

11. A product data exchange system as claimed in claim 1, wherein the technical product data in the exchange package is arranged in a plurality of entities, and the exchange package includes for each of the entities information on one of the collaborating companies that has ownership of the entity; the editing system being operative to, under control of a user, trigger transfer of the ownership for a user-selectable entity in the exchange package to another one of the collaborating companies.

12. A product data exchange system as claimed in claim 10 and 11, wherein the editing system is operative to include in metadata of the header of the exchange package an indication of a current owner, an indication of a desired owner, and an indication of a date of transfer of ownership to the desired owner.

13. A product data exchange system as claimed in claim 10, wherein metadata in the header includes status information on sub-projects of the project; the editing system being operative to convert status information imported from a data management system in a data management specific format to a predetermined format.

14. A product data exchange system as claimed in claim 10, wherein metadata in the header includes information representing a relationship between attachments, where the relationship is one of the following:

- an attachment further specifies information in a related entity;
- information in an attachment is derived from information in a related attachment;
- an attachment is hierarchically related to another attachment.

15. A product data exchange system as claimed in claim 10, wherein metadata in the header includes information on a task of the collaborating companies, such as a developer task, manufacturer task, supplier task, or service/maintenance task.
- 5 16. A product data exchange system as claimed in claim 10, wherein the header is in the XML format.
17. An editing system for use in the product data exchange system as claimed in claim 1 for exchanging technical product data between respective computer systems of a plurality of collaborating companies; the editing system including means for:
- 10 importing technical product data relating to a user-selectable project from a plurality of distinct data management systems, such as CAD, PLM, ERP, each for creating respective technical product data;
- creating an exchange package representing user-selectable parts of the
- 15 imported technical product data; and
- providing the exchange package to a computer system located at at least one of the other collaborating companies.
18. A method of exchanging technical product data between respective computer
- 20 systems of a plurality of collaborating companies; the method including
- importing technical product data relating to a user-selectable project from a plurality of distinct data management systems , such as CAD, PLM, ERP, each for creating respective technical product data;
- creating an exchange package representing user-selectable parts of the
- 25 imported technical product data; and
- providing the exchange package to a computer system located at at least one of the other collaborating companies.
19. A computer program product operative to cause a processor to execute the
- 30 steps of the method as claimed in claim 18.